



# Overview:

# Pure Melt Sharp Interface Equations:

# Stability of Dendrite:

# **Analytic : Microscopic Solvability**

# Phase Field Technique:

# Phase Field Technique (Equations):

# Level Set Technique:



# Level Set ( $V_n$ Calculation):

# Level Set (Advection):

**Level Set (Temperature):**

# Level Set (Implicit Solve):

# Continuing Work:VOF Technique

**Level Set NK results :**

# Simulations : Default Dendrite

# Simulations : Resolution Study



# Simulations : Diffusivity Study

# Further Work: